

STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
DF-46 (REV 08/15)

Fiscal Year 6-17	Business Unit 1110 1111	Department Department of Consumer Affairs	Priority No. 1
Budget Request Name 1110 -025-BCP-BR-2016-GB 1111		Program 1215014 – Board of Professional Engineers, Land Surveyors and Geologists	Subprogram

Budget Request Description
Exam Development Personnel Selection Consultant I (PSC I)

Budget Request Summary

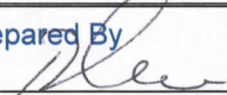
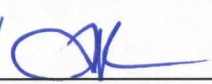

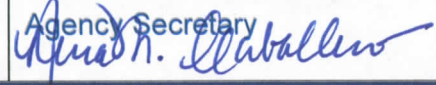
The Board of Professional Engineers, Land Surveyors, and Geologists (Board) request to redirect \$118,000 in 2016-17 and \$110,000 in 2017-18 and ongoing to establish 1.0 Personnel Selection Consultant I (PSC I) position. This will allow the Board to provide analytical and technical expertise in-house relative to the design, development, and verification of the Board's licensing examination and reduce contracting out for psychometrical services.

Requires Legislation <input type="radio"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

☐ FSR ☐ SPR Project No. Date:

If proposal affects another department, does other department concur with proposal? ☐ Yes ☐ No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By 	Date 8/28/15	Reviewed By 	Date 08/28/15
Department Director 	Date 8/31/15	Agency Secretary 	Date 9-1-15

Department of Finance Use Only

Additional Review: ☐ Capital Outlay ☐ ITCU ☐ FSCU ☐ OSAE ☐ CALSTARS ☐ Dept. of Technology

BCP Type: ☐ Policy ☐ Workload Budget per Government Code 13308.05

PPBA Original signed by Jeff Carosone	Date submitted to the Legislature 1-7-16
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BCP Fiscal Detail Sheet

BCP Title: Board of Professional Engineers, Land Surveyors, and Geologists: Exam-Development
Position

DP Name: 1111-025-BCP-DP-2016-GB

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Positions - Permanent	0.0	1.0	1.0	1.0	1.0	1.0
Total Positions	0.0	1.0	1.0	1.0	1.0	1.0
Salaries and Wages						
Earnings - Permanent	0	68	68	68	68	68
Total Salaries and Wages	\$0	\$68	\$68	\$68	\$68	\$68
Total Staff Benefits	0	37	37	37	37	37
Total Personal Services	\$0	\$105	\$105	\$105	\$105	\$105
Operating Expenses and Equipment						
5301 - General Expense	0	2	10	10	10	10
5302 - Printing	0	1	1	1	1	1
5304 - Communications	0	1	1	1	1	1
5306 - Postage	0	1	1	1	1	1
5322 - Training	0	1	1	1	1	1
5340 - Consulting and Professional Services - Interdepartmental	0	-93	-93	-93	-93	-93
5340 - Consulting and Professional Services - External	0	-19	-27	-27	-27	-27
5344 - Consolidated Data Centers	0	1	1	1	1	1
Total Operating Expenses and Equipment	\$0	\$-105	\$-105	\$-105	\$-105	\$-105

Fund Summary

Fund Source - State Operations

Total State Operations Expenditures

Total All Funds

\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$0

Program Summary

Program Funding

Total All Programs

\$0	\$0	\$0	\$0	\$0	\$0
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		Salary Information											
Positions		Min	Mid	Max	CY	BY	BY+1	BY+2	BY+3	BY+4			
5144 - Pers Selection Consultant I (Eff. 07-01-2016)					0.0	1.0	1.0	1.0	1.0	1.0			
Total Positions					0.0	1.0	1.0	1.0	1.0	1.0			
SALARIES AND WAGES													
		CY	BY	BY+1	BY+2	BY+3	BY+4						
5144 - Pers Selection Consultant I (Eff. 07-01-2016)		0	68	68	68	68	68						
Total Salaries and Wages		\$0	\$68	\$68	\$68	\$68	\$68						
STAFF BENEFITS													
5150350 - Health Insurance		0	12	12	12	12	12						
5150500 - OASDI		0	5	5	5	5	5						
5150600 - Retirement - General		0	17	17	17	17	17						
5150800 - Workers' Compensation		0	3	3	3	3	3						
Total Staff Benefits		\$0	\$37	\$37	\$37	\$37	\$37						
Total Personal Services		\$0	\$105	\$105	\$105	\$105	\$105						

Analysis of Problem

A. Budget Request Summary

The Board for Professional Engineers, Land Surveyors, and Geologists (Board) requests a Personnel Selection Consultant I (PSC I) to serve as a Psychometrician for the Board. The Board will redirect \$118,000 in FY 2016-17 and \$110,000 in FY 2017-18 and ongoing to establish and fund this position. This position is essential in ensuring that the Board has sufficient oversight of exam development processes. This position would provide analytical and technical expertise relative to the design, development, and verification of the Board's licensing examinations.

B. Background/History

Business and Professions Code (BPC) Sections §§ 6700-6799, 7800-7887, and 8700-8805 authorize the Board to license and enforce the practices of professional engineering, land surveying, geology, and geophysics. The Board is mandated to administer licensing exams at least once each year, with some exams being offered biannually to advance licensing. National examinations for Professional Engineers and Land Surveyors are developed and administered by the National Council of Examiners for Engineering and Surveying (NCEES). National exams for Professional Geologists are developed by the Association of State Boards of Geology (ASBOG) and are administered by Board staff. State-specific examinations are developed by the Board and administered through computer-based testing (CBT). The Board offers the following National and State licensing exams:

National Exams:

Agricultural Engineer
Chemical Engineer
Civil Engineer- Principles/Practice
Control System Engineer
Electrical Engineer
Fundamentals of Engineering
Fundamentals of Surveying
Fire Protection Engineer
Industrial Engineer
Manufacturing Engineer
Mechanical Engineer
Metallurgical Engineer
Nuclear Engineer
Petroleum Engineer
Professional Land Surveyor
Structural Engineer
Fundamentals of Geology
Practice of Geology

State-Specific Exams:

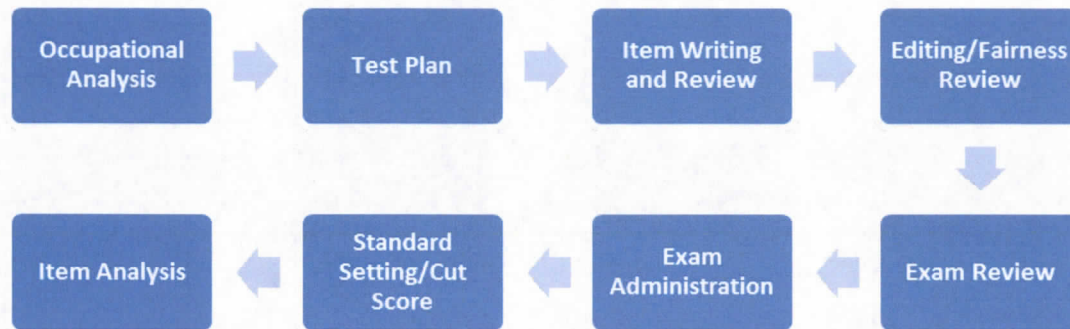
Civil Engineer - Seismic Principles
Civil Engineer - Engineering Surveying
Geotechnical Engineer
Professional Land Surveyor
Traffic Engineer
Professional Geologist
Professional Geophysicist
Certified Engineering Geologist
Certified Hydrogeologist

The Board is responsible for administering or contracting to administer all 27 National and State specific examinations to its applicants. NCEES and ASBOG develop, publish and create the national exam forms, complete national exam scoring, and review ADA requests for special accommodations. Contracting with NCEES and ASBOG for national exams provides for examination consistency and reciprocity among all fifty states.

Most recently, the Board was utilizing the Department of Consumer Affairs' (Department) Office of Professional Examination Services (OPES) to assist in developing the Board's one (1) Traffic Engineer examination and four (4) Geology/Geophysics examinations. The Board relies on external contracts with Prometric, Inc. to provide psychometric expertise for the remaining four (4) state-specific examinations identified in the table above.

Analysis of Problem

The current process for developing state-specific exams include:



California's nine (9) state-specific examinations are all developed by Board staff with the support of examination contract vendors. The Board relies on contract vendors to provide psychometric expertise for all examinations. The Board's dependence on contract vendors for psychometric expertise is problematic. The Board relies solely on contract vendors to verify all state-specific examinations required for licensure. This dependence has subjected the Board to development constraints and annual increased contract costs. A PSC I would close the knowledge gap between contract vendors and current examination staff, reduce development timeframes, and decrease program expenditures. Additionally, current examination staff does not have the education or experience necessary to monitor the more complex components of examination development. Since the Board is ultimately responsible for the accuracy of all of the examination information, it is essential that the Board have a Psychometrician on staff to provide these services.

Over the past few years the examination process has changed. With the development of new examination technologies and techniques, different aspects of the examination process have become more significant. For example, in 2011, the Board started its transition to CBT which led to an increased need for items in the Boards examination item banks. With this increased need for exam item development, our Psychometrician on staff becomes vital to maintaining the quality, validity, and defensibility of the exam items and developed examinations. Item development is still a main focus today and for the foreseeable future. Although the Board currently relies on outside vendors to provide these services, requesting this significant amount of additional services would be costly to the Board or significantly taxing on the vendor due to workload demands. This is why it is essential the Board has a Psychometrician on staff to validate this increasingly large number of examination bank items.

Another change occurring in the examination process is the increase in examination forms. Moving to CBT offers a more efficient exam delivery, testing, and results process. But it also requires a more competent, innovative, and legally defensible testing process. Therefore, multiple exam forms need to be generated to guarantee competent testing and, more importantly, exam security. In order to offer more forms additional items need to be developed to offer variability in exam testing.

Currently, the Examination Development Program is staffed with 3.0 AGPAs, 2.0 SSAs, and 1.0 OT (T). Staffing is not sufficient to handle the workload because the unit does not include a Psychometrician whose expertise is necessary to continue developing, interpreting, and validating the examinations. Staff would benefit from having a staff Psychometrician who would be able to interpret statistical exam data, determine the effectiveness of exam items, consult with and train staff and subject matter experts (SME) on proper exam development techniques and processes, review items for effectiveness; and develop plans for item improvement where needed. All of these services are currently being performed by contracted examination vendors at a higher cost and slower turnaround time.

Analysis of Problem

Resource History (Dollars in thousands)

Program Budget 0770 – Board for Prof. Engineers and Land Surveyors	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
Authorized Expenditures	9,095	10,438	9,230	9,739	7,843	9,830
Actual Expenditures	9,035	10,465	6,867	7,843	7,767	9,746
Revenues	9,066	10,135	8,187	8,820	8,730	7,768
Authorized Positions	35.7	35.7	36.7	36.7	36.7	36.7
Filled Positions	35.7	34.7	35.7	35.7	34.5	36.7
Vacancies	0.0	1.0	1.0	1.0	.07	0

Program Budget 0205 - Geology	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
Authorized Expenditures	1,331	1,335	1,358	1,377	1,418	1,411
Actual Expenditures	850	1,010	1,040	1,136	1,083	875
Revenues	1,018	990	1,055	967	857	966
Authorized Positions	5.0	5.0	5.0	6.0	5.0	5.0
Filled Positions	5.0	5.0	5.0	5.0	5.0	5.0
Vacancies	0.0	0.0	0.0	1.0	0	0

Workload History

Workload Measure	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
State Specific Exams Administered Per Year*	13	13	12	13	13	15
Items Maintained	765	770	995	1,335	1,610	3,370
Exam Forms	12	11	16	33	37	57

* NOTE: State-specific exams includes Civil Seismic, Civil Survey, Geotechnical Engineer, Traffic Engineer, Land Surveyor, Geology California-Specific, Certified Engineering Geology, Certified Hydrogeology, and Professional Geophysicist. The Board administers nine (9) exams however a number of exams are administered multiple times per year.

C. State Level Considerations

The Board's statutory mandate as stated in BPC §6710.1, 8710.1, and 7810.1: "Protection of the public shall be the highest priority of the Board for Professional Engineers and Land Surveyors in exercising its licensing, regulatory, and disciplinary functions. Whenever the protection of the public is inconsistent with other interests sought to be promoted, the protection of the public shall be paramount." Additionally, the Board's 2015-2018 Strategic Plan has a goal to "promote appropriate standards so that qualified individuals may obtain licensure in order to protect the public." Specifically, objective 2.2 states is "increase exam opportunities for candidates." By providing legally-defensible and contemporary exams on a more consistent basis, it opens up opportunities for increased licensure to those who qualify.

D. Justification

This position would conduct pass point analysis, planning and selection research, formulate policies and priorities, and provide guidance to the Licensing unit regarding the performance of the items for each licensing examination offered by the Board. Currently, the Board contracts for the psychometric services associated with the development of state-specific examinations. The average annual cost to contract for psychometric services is \$230,273. The estimated cost to perform psychometric services in-house per year is \$118,000 the first year and \$110,000 on going. This requested staff

Analysis of Problem

Psychometrician position would be able to take on a majority of the hours required in developing and maintaining effective examinations. This Psychometrician would aid in contracting the remaining hours necessary to develop satisfactory examinations and will identify additional services for procurement, when necessary.

With this requested position, the process for developing state-specific exams will not change. However, with approval, the Board anticipates a reduction in costs and will benefit from in-house expertise. The surplus from this reduction in contracting cost will then be used to cover the continual increase in exam development contract costs. The Board has experienced and will continue to experience an increase in examination development costs because of evolving examination technologies and techniques. Additionally, the cost for exam contracts increases each year. With this BCP, the Board is working toward a proactive approach to internally mitigate the increased cost of exam development so the Board does not have to put the burden of these increased costs on future applicants.

The Board's examination staff would benefit greatly from having a staff Psychometrician in-house. An in-house Psychometrician would be able to interpret statistical exam data, determine the effectiveness of exam items, and consult with and train staff and subject matter experts (SME) on proper exam development techniques and processes. An in house Psychometrician would also review items for effectiveness and develop plans for item improvement, where needed.

It is inefficient for the Board to continue outsourcing the services of Psychometrician. Bringing a Psychometrician In house will provide cost savings and additional accountability for use of government funds. By bringing a Psychometrician in house the Board will have more accountability for job performance. Because the services performed by outside entities are governed only by specific terms in the contract, the Board has difficulty altering services expeditiously to account for unanticipated needs. The Board is only able to make a contractor respond to unexpected needs through costly contract re-negotiation.

Moreover, in house employees are able to develop specialist skills and expertise related to the Boards licensee demographics and the Board's internal framework. The Board has recognized that contracted Psychometricians are not able to build an internal knowledge of the Board's programs and operations. Because of this, the contracted Psychometricians lack the expertise of our Board's context.

Current Cost to Contract Service

Psychometric Services Contract Cost	Annual
Prometric Contracts	\$ 137,596
OPES-Memorandum of Understanding	\$ 92,677
Total Contract Service	\$ 230,273

In-house Staff Cost

Personnel Selection Consultant I	BY	BY + 1
Salary, benefits and Operating Expenses and Equipment	\$ 118,000	\$ 110,000
Savings	\$ 112,273	\$ 120,273

E. Outcomes and Accountability

Projected Outcomes

Workload Measure	FY 2014-15	FY 2015-16	FY 2016-17
State Specific Exams (#)	15	15	15
Items Maintained	3,370	2,490	2,490
Exam Forms	57	57	*N/A

Analysis of Problem

***NOTE:** Examinations will be moving to Linear-on-the-FLY testing (LOFT). LOFT is a dynamic form generation model that utilizes advanced computer algorithms and item characteristics to custom-build each exam for each user. LOFT requires the Board to maintain a large volume of items.

Analysis of All Feasible Alternatives

1. Alternative 1 – Redirect \$118,000 in 2016-17 and \$110,000 in 2017-18 and ongoing to establish 1.0 PSC I position.
 - a. Pros:
 - i. This alternative will allow the Board to significantly reduce the need to contract out for the work of a Psychometrician.
 - ii. This alternative will allow the Board to provide routine analytical and technical expertise, currently absent in-house, relative to the design and development of the Board's licensing examinations.
 - iii. This position would assist with pass point analysis, conduct planning and selection research, recommend policies and priorities, and provide guidance to the Licensing unit and Board executive leadership regarding the performance of each licensing examination given by the Board.
 - b. Cons:
 - i. Will have to redirect funds from other programs and projects to fund this ongoing 1.0 PSC I position.
2. Alternative 2 – Redirect \$113,000 in 2016-17 and \$105,000 in 2017-18 and ongoing to add an AGPA position as an Examination Development Specialist.
 - a. Pros:
 - i. This alternative will provide additional staff resources to support workload, but the vital education and expertise needed to perform the psychometric analyses would be absent.
 - ii. The classification specifications for a PSC I are more on target with a person who has the level of education and training as a Psychometrician, whereas those for the AGPA class do not.
 - b. Cons:
 - i. This option will not allow for dealing with the true need of a specialist in examination development in the licensing exams and will not resolve the need for the specific qualification and expertise provided by the PSC I position.
3. Alternative 3 – Redirect staff from other programs to the Examination Development Unit.
 - a. Pros:
 - i. Staff redirections from the Administrative Services Unit and the Enforcement Unit would be options if the only need was to supply additional workload resources.
 - ii. The ability to bring analytical and technical staff in-house relative to contracting with an examination vendor would save the Board time, contract encumbrances, and provide convenience and professional support to exam staff.
 - b. Cons:
 - i. Redirecting staff from the other units would create workload issues in those units.
 - ii. Redirection of existing staff does not resolve the need for the specific qualifications and expertise provided by the PSC I position.

Analysis of Problem

4. Alternative 4 – Continue to contract with outside examination vendors.

a. Pros:

- i. The services and expertise provided to the Board from contracting exam staff in assisting with the development and validation of our exams would be immeasurable.
- ii. At a meeting held November 19, 2014, between our Board and OPES regarding examination development, both the OPES Chief and the Operations Manager recommended that our Board hire a staff Psychometrician to assist in our examination development going forward.

b. Cons:

- i. Contracting with a vendor or contractor for the typical routine tasks is more costly than bringing a PSC I position in-house.
- ii. The quality and effectiveness of the examinations and exam staff would increase while reducing our reliance on contracted services.

G. Implementation Plan

Upon approval, the Board will continue to develop examinations and coordinate with its vendors and contractors. As soon as the budget is approved and the position is authorized, the Board will review and initiate its plan to develop addition examinations for computer-based testing in accordance with the Board's mission to safeguard the public welfare.

H. Supplemental Information

None.

I. Recommendation

Recommendation of Alternative 1: Redirect \$105,000 in 2016-17 and ongoing to establish 1.0 PSC I position. This alternative will allow the Board to stop contracting out for the work of a Psychometrician. Additionally, this alternative will allow the Board to provide analytical and technical expertise, currently absent in-house, relative to the design and development of the Board's licensing examinations. These are essential functions to the examination development program that does not currently exist. This position would conduct pass point analysis, planning and selection research, formulate policies and priorities, and provide guidance to the Licensing unit regarding the performance of each licensing examination given by the Board.

**BCP 1110-025-BCP-BR-2016-GB
FY 2016-17**

Attachment 1

Personnel Selection Consultant I Workload

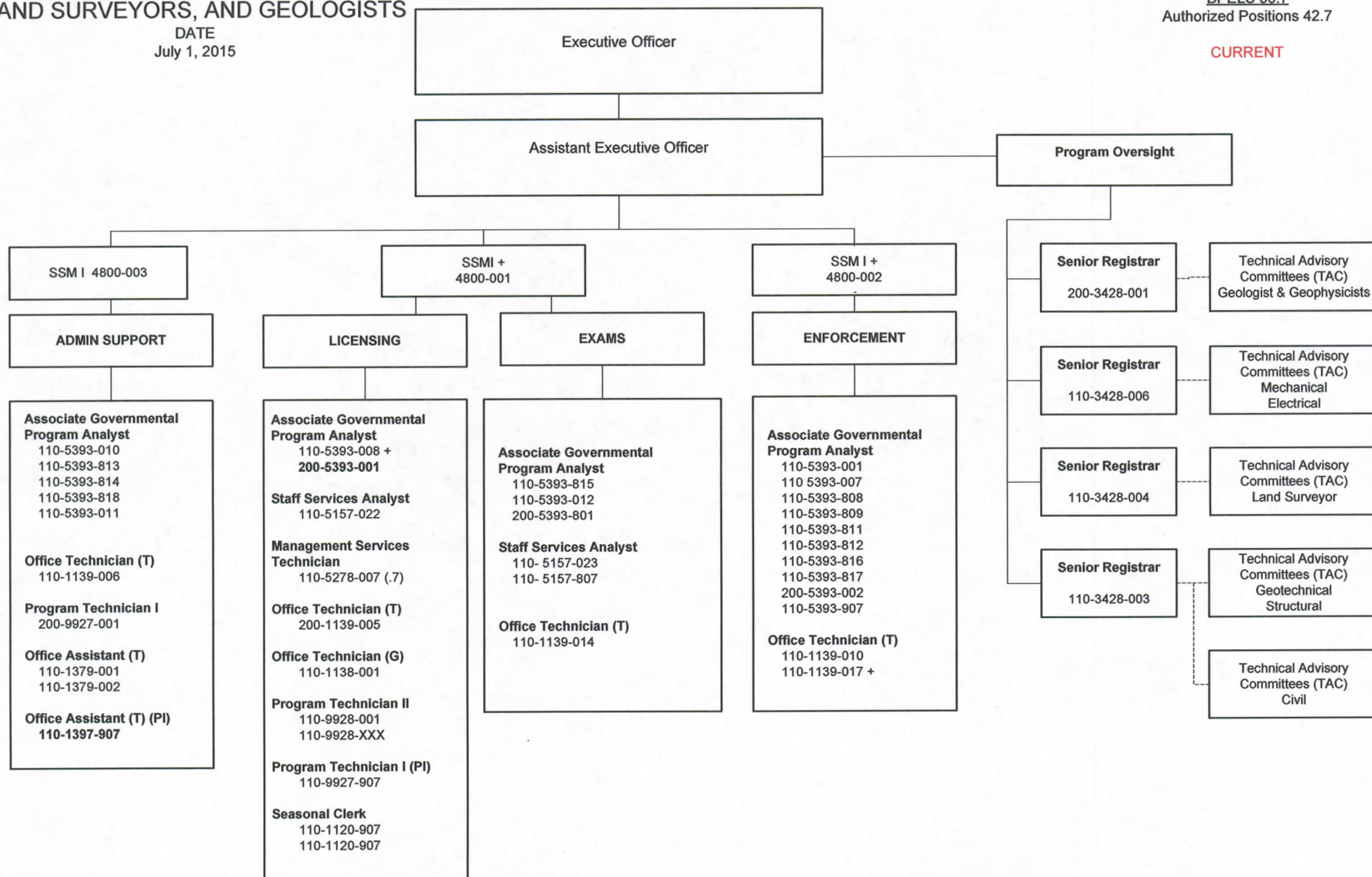
SPECIFIC TASKS	# OF TIMES TASK IS PERFORMED ANNUALLY	AMOUNT OF TIME TO PERFORM TASK ONCE (Hours)	TOTAL TIME/YEAR (Hours)	% of Total
Exam Development & Construction				
Act as Chief Consultant for state specific exams	261	2.00	522	
Develop action plans for successful occupational-licensing exams	13	8.00	104	
Evaluate test questions via IRT analysis	13	4.00	52	
Oversee exam form construction	13	8.00	104	
Manage equating standard workshops	13	8.00	104	
Lead passing score workshops	13	8.00	104	
Subtotal	326	38.00	990	54.88%
Exam Measurements & Validation				
Establish and define exam reliability standards	52	1.00	52	
Plan, organize, and conduct research to validate exams	52	1.00	52	
Gather, analyze, and report on exam statistics	13	16.00	208	
Recommend exam cut scores to Executive Officer	13	4.00	52	
Communicate with exam staff and technical experts	261	1.00	261	
Subtotal	391	23.00	625	34.65%
Contracts Management				
Oversee staff and direct contractors for exam development and administration	52	1.00	52	
Identify consultant contract needs for exam support	52	1.00	52	
Review and audit scope of services for exam contracts	12	1.00	12	
Develop criteria and procedures for evaluating contract performance	52	1.00	52	
Evaluate Annual Occupational Analysis for exam needs	13	1.00	13	
Complete Form 139 report	1	8.00	8	
Subtotal	182	13.00	189	10.48%
	Total hours/year		1,804	100.00%
1 PY = 1,776 hours	Workload Required (PY)		1.0	
	Current Staffing		0.0	
	Total Program Need (PY)		1.0	

Department of Consumer Affairs
BOARD FOR PROFESSIONAL ENGINEERS,
LAND SURVEYORS, AND GEOLOGISTS

DATE
July 1, 2015

Form 16
CS 6
BPELS 36.7
Authorized Positions 42.7

CURRENT



Ric Moore, Executive Officer

Date

Julia Gaston, Personnel Analyst

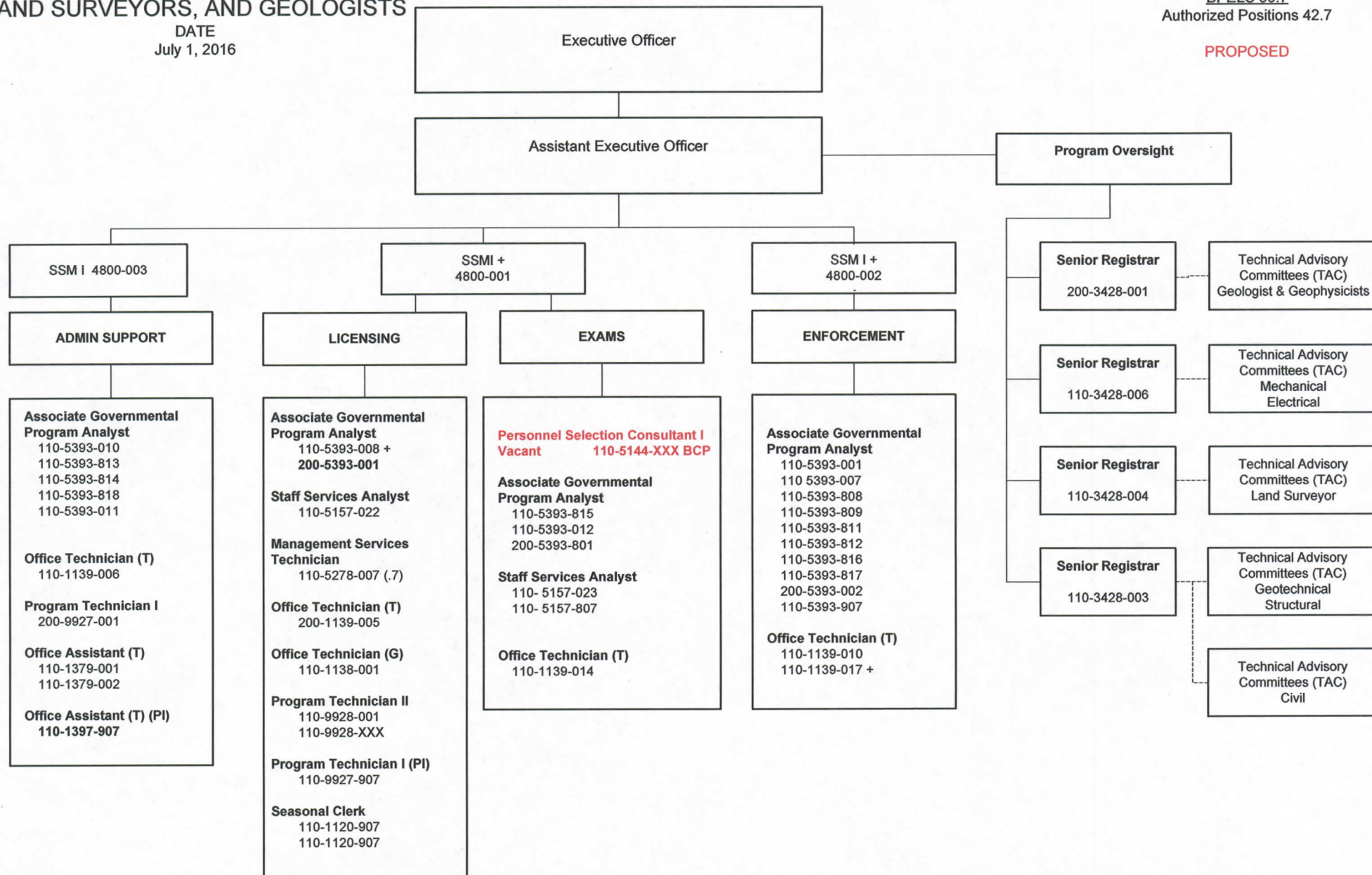
Date

Department of Consumer Affairs
BOARD FOR PROFESSIONAL ENGINEERS,
LAND SURVEYORS, AND GEOLOGISTS

DATE
July 1, 2016

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PROPOSED



Ric Moore, Executive Officer

Date

Julia Gaston, Personnel Analyst

Date

0770 - Board for Prof. Engineers and Land Surveyors

Analysis of Fund Condition

Prepared 7/19/15

(Dollars in Thousands)

2015-16 Governor's Budget with proposed BCP FY 16/17

	ACTUAL 2014-15	Budget Act CY 2015-16	BY 2016-17	BY+1 2017-18
BEGINNING BALANCE	\$ 5,830	\$ 4,503	\$ 3,377	\$ 2,123
Prior Year Adjustment	\$ -	\$ -	\$ -	\$ -
Adjusted Beginning Balance	\$ 5,830	\$ 4,503	\$ 3,377	\$ 2,123
REVENUES AND TRANSFERS				
Revenues:				
125600 Other regulatory fees	\$ 104	\$ 104	\$ 104	\$ 104
125700 Other regulatory licenses and permits	\$ 2,618	\$ 2,607	\$ 2,607	\$ 2,607
125800 Renewal fees	\$ 5,123	\$ 6,071	\$ 6,071	\$ 6,071
125900 Delinquent fees	\$ 65	\$ 61	\$ 61	\$ 61
141200 Sales of documents	\$ -	\$ -	\$ -	\$ -
142500 Miscellaneous services to the public	\$ -	\$ -	\$ -	\$ -
150300 Income from surplus money investments	\$ 7	\$ 7	\$ 1	\$ 1
150500 Interest Income from interfund loans	\$ -	\$ -	\$ -	\$ -
160400 Sale of fixed assets	\$ -	\$ -	\$ -	\$ -
161000 Escheat of unclaimed checks and warrants	\$ 9	\$ 9	\$ 9	\$ 9
161400 Miscellaneous revenues	\$ 1	\$ 1	\$ 1	\$ 1
Totals, Revenues	\$ 7,927	\$ 8,860	\$ 8,854	\$ 8,854
Transfers from Other Funds				
FO0001 Proposed GF Loan Repayment per item 1110-011-0770, Budget Act of 2008	\$ -	\$ -	\$ -	\$ -
FO0001 Proposed GF Loan Repayment per item 1110-011-0770, Budget Act of 2011	\$ 500	\$ -	\$ -	\$ 3,200
Transfers to Other Funds				
TO0001 GF Loan per item 1110-011-0770 Budget Act of 2008	\$ -	\$ -	\$ -	\$ -
TO0001 GF Loan per item 1110-011-0770 Budget Act of 2011	\$ -	\$ -		
Totals, Revenues and Transfers	\$ 8,427	\$ 8,860	\$ 8,854	\$ 12,054
Totals, Resources	\$ 14,257	\$ 13,363	\$ 12,231	\$ 14,177
EXPENDITURES				
Disbursements:				
1110 Program Expenditures (State Operations)	\$ 9,746	\$ 9,968	\$ 10,108	\$ 9,975
FY 16/17 BCP Exam Development			\$ -	\$ -
8880 Financial Information System for CA (State Operations)	\$ 8	\$ 18	\$ -	\$ -
Total Disbursements	\$ 9,754	\$ 9,986	\$ 10,108	\$ 9,975
FUND BALANCE				
Reserve for economic uncertainties	\$ 4,503	\$ 3,377	\$ 2,123	\$ 4,202
Months in Reserve	5.4	4.0	2.6	5.0